Appendix 1: Example search strategy

Medline (OvidSP)

1	exp hypertension/
2	hypertens*.ti,ab.
3	(elevat* adj3 (blood pressure or bp)).ti,ab.
4	(high adj3 (blood pressure or bp)).ti,ab.
5	(increase* adj3 (blood pressure or bp)).ti,ab.
6	((systolic or diastolic or arterial) adj3 (pressure or bp)).ti,ab.
7	(blood pressure or bp).ti.
8	1 or 2 or 3 or 4 or 5 or 6 or 7
9	exp pregnancy/
10	exp hypertension, pregnancy induced/
11	(pre-eclampsia or preeclampsia).ti,ab.
12	exp hypertension, malignant/
13	exp hypertension, portal/
14	exp hypertension, pulmonary/
15	exp hypertension, renal/
16	exp intracranial hypertension/
17	exp ocular hypertension/
18	9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17
19	8 not 18
20	*Blood Pressure Monitoring, Ambulatory/
21	(Blood Pressure Determination/ or Blood Pressure Monitoring, Ambulatory/) and Self Care/
22	(Blood Pressure Determination/ or Blood Pressure Monitoring, Ambulatory/) and Home Care Services/
23	((blood pressure or bp) adj3 home).ti,ab.
24	((blood pressure or bp) adj3 self*).ti,ab.
25	((home monitor* or home measure*) adj5 (blood pressure or bp)).ti,ab.
26	((self monitor* or home measure*) adj5 (blood pressure or bp)).ti,ab.
27	hbpm.ti,ab.
28	20 or 21 or 22 or 23 or 24 or 25 or 26 or 27
29	19 and 28
30	letter.pt,sh.
31	editorial.pt.
32	historical article.pt,sh.
33	comment.pt.

34 news.pt.
35 case report*.pt,sh.
36 exp animals/ not human/
37 Disease Models, Animal/
38 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37
39 29 not 38

Appendix 2: Data extraction

Study details

Ref ID:	
Title	
First author	
Year of publication	
Journal	
Country	
Type of study	
Length of study	
Free text – additional information	

Sample characteristics

Sample size	
Age mean	
Age ranger lower	
Age range upper	
Number of males	
% of males	
Setting/ Participants	
Number of hypertensives	
% of hypertensives	
Number treated with antihypertensive medication	
% of number treated	
Free text additional information	

	Yes	No	Not stated	Number	%
Stroke					
MI					
Diabetes					
CKD					
CVD					
Other					

Please specify other comorbidities	

Schedule details

Make and model of BP device	

Is BP device validated?

☐ yes ☐ No ☐ Unclear

Did the device comply with EU/US recommendations 2010 (2am,2pm, for one week)

☐ Yes

☐ No

Number of readings (1,2,3,4,5,6,7,8,9,10, unclear or n/a)	
Daytime	
Evening	
Other times	

Frequency (e.g. first week of month)	

Duration/length of monitoring (e.g. 4 weeks/12 months)	

Place of measurement

- ☐ home
- ☐ GP surgery
- ☐ pharmacy
- ☐ other

Please specify if other	

Position

- ☐ seated
- ☐ standing
- ☐ supine
- ☐ unspecified

What is the rest period prior to first reading?	

Length of time between readings (1 min,2 min,3 min,4 min,5 min, not stated, other; please specify if other)	

Any advice re timing of measurement? E.g. meds/eating/drinking/activities?

- ☐ yes
- ☐ No

Specify advice	
Any ignored readings, please specify	
Details of proposed "best" schedule	
Free text additional information	

Outcomes and analysis

Prognostic studies

all cause mortality	☐ yes	☐ no
CV related mortality	☐ yes	☐ no
Stroke	☐ yes	☐ no
MI	☐ yes	☐ no
Angina	☐ yes	☐ no
heart failure	☐ yes	☐ no
CVD events	☐ yes	☐ no
Other	☐ yes	☐ no

Please specify if other	
What other variables were assessed? e.g. no. of readings/ time of day	

Reproducibility/reliability studies

Reference standard

☐ yes ☐ no ☐ N/A ☐ unclear

If yes, give details	
Free text stats info	
Free text outcomes	

What were summary stats used?

☐ Hazard ratio ☐ odds ratio ☐ relative risk ☐ correlation ☐ other

Adjusted for baseline co-variants?

☐ yes ☐ No ☐ Unclear

Please give details if unclear	

How was BP measured?

☐ continuously ☐ categorically ☐ unclear ☐ other

Please give details	

Measures of reliability

☐ Bland/altman ☐ correlation ☐ other

Please specify	

Estimates of difference reported?

☐ yes ☐ no ☐ N/A

Correlation ☐ yes ☐ no

Standard deviation ☐ yes ☐ no

Means ☐ yes ☐ no

Refer to results table available in full text article? ☐ yes

Table number	
Free test other schedule	

Appendix 3: Methodological quality checklist

The checklist questions below are those used during the data extraction process. Some of the items were then aggregated into summary categories in Table 2.

1. Are the hypotheses/ objectives clearly described?
2. Are the main outcomes described in the intro/ methods?
3. Is the self-monitoring regime clearly described?
4. Are the individuals invited to participate likely to be representative of the target population?
5. Are the individuals who consented to take part likely to be representative of the target population?
6. Could the participant selection methods have introduced bias?
7. Did the analysis control for confounders?
8. Was there adequate and clear time period between measurements (i.e. SMBP and reference measurement)?
9. Was there blinding of those performing ABPM to the SMBP results?
10. Were the data collection tools (equipment [e.g. BP machines], tests, questionnaires) demonstrated to be valid and reliable?
11. Was there adequate checking of self-monitoring readings (e.g. by checking the memory of device)?
12. Had the SMBP device passed validation (according to dabl or BHS websites)?
13. Had the reference device passed validation (according to dabl or BHS websites)?
14. Was the same reference standard used across the sample?
15. Were withdrawals and drop-outs reported in terms of numbers and/or reasons?
16. Are characteristics of drop-outs reported?
17. Are basic statistics/ simple outcome data reported?
18. Are the main findings clearly described?
19. Have actual probability values been reported (i.e. not e.g. >0.05)?
20. Were the statistics tests used to assess the main outcomes appropriate?
21. What percentage of selected individuals agreed to participate?
22. What percentage of selected individuals completed the study?

Appendix 4: Explanation of analytic method (regression dilution)

Suppose the true relationship between some continuous outcome Y, and a continuous measurement X, is linear with regression coefficient β*. Suppose further that X is not measured precisely, but instead, a surrogate measurement W is taken, where W=X+ε. We assume the error terms ε are independent of X and Y, and independent of each other conditional on X, and hence independently identically distributed with $\varepsilon \sim N(0,\sigma_w^2)$. Then it is known[1] that the relationship between Y and W is also linear with true regression coefficient beta such that

$$\beta^* = (1 + \sigma_w^2/\sigma_x^2)\,\beta$$

where σ_x is the standard deviation of X. This relationship, which is exact for linear regression, also holds approximately for many linear models including logistic regression (taking beta to be the log odds ratio) and Cox proportional hazards models (taking beta to be the log hazard ratio).

Now suppose that multiple measurements are available on each individual, so that we can take W_k to be the mean of *k* repeated measurements on an individual. Under the independence assumptions, $W_k = X + \varepsilon_k$ where $\varepsilon_k \sim N(0, \frac{1}{k}\sigma_w^2)$, and so

$$\beta^* = (1 + \tfrac{1}{k}\sigma_w^2/\sigma_x^2)\,\beta_k.$$

Hence

$$\frac{1}{\beta_k} = \frac{1}{\beta^*}(1 + \tfrac{1}{k}\sigma_w^2/\sigma_x^2)$$

which can be written

$$\frac{1}{\beta_k} = a + {}^{b}/_{k} \quad .$$

Thus $1/\beta_k$ is linear in 1/k, and a plot of estimates of $1/\beta_k$ against 1/k should be approximately linear. Within each study, we fit a straight line to the estimates of $1/\beta_k$ against 1/k to estimate the coefficients a and b, and back-transformed the fitted line to display on a plot of β_k against k.

Similar arguments for correlation coefficients proceed as follows. Note first that Cov(W,Y)=Cov(X,Y) under the independence assumptions used above. Let ρ be the true Pearson's coefficient of correlation between X and Y, and let ρ_k be the correlation between W_k and Y when, as before, W_k is the mean of k independent observations on each individual. If σ_x and σ_y are the standard deviations of X and Y respectively then $\rho=\mathrm{Cov}(X,Y)/\sigma_x\sigma_y$.

The variance of W_k is $(\sigma_x^2 + \frac{1}{k}\sigma_w^2)$ and hence

$$\rho_k = \frac{\mathrm{Cov}(W_k, Y)}{\sigma_y\sqrt{(\sigma_x^2 + \frac{1}{k}\sigma_w^2)}} = \frac{\mathrm{Cov}(X, Y)}{\sigma_y\sqrt{(\sigma_x^2 + \frac{1}{k}\sigma_w^2)}}$$

Thus,

$$\frac{1}{\rho_k^2} = (\sigma_x^2 + \frac{1}{k}\sigma_w^2)\frac{\sigma_y}{\mathrm{Cov}(X, Y)} = c + {}^{d}/_{k}$$

and so a plot of estimates of $1/\rho_k^2$ against 1/k should be approximately linear. Within each study, we fit a straight line to estimates of $1/\rho_k^2$ against 1/k, and back-transformed the fitted line to display on a plot of correlation against k.

[1] Frost C, Thompson SG. Correcting for regression dilution bias: comparison of methods for a single predictor variable. J. R. Statist. Soc. A. 2000; 163, Part 2:173-89.

Table S1: Summary of included studies

Study (First author; publication date)	Country	Setting and Participants	Sample Size	Mean age (SD)	No. (%) of males	No. (%) hypertensive	No. (%) on anti-hypertensive medication	SMBP measurement regime	SMBP device (validated Y/N)	ABPM device (validated Y/N)	Mean years of follow-up (S.D.)	Outcome
Prognostic studies												
Asayama (2009)	Japan	General population	2234	59 (12)	826 (37%)	No data	504 (29%)	One evening measure per day over 4 weeks	Omron HEM 401C (N)	N/A	11.9 (median)	Stroke and TIA
Asayama (2006)	Japan	General population	1766	60 (11)	709 (40%)	582 (33%)	648 (29%)	One morning & one evening measure per day over 4 weeks	Omron HEM 401C (N)	N/A	10.6 (median)	Stroke and TIA
Hoshide (2016)	Japan	History of or risk factors for CVD	4278	65 (11)	(47%)	No data	3388 (79%)	3 morning & 3 evening measures per day over 14 days	Omron HEM-5001 (Y)	N/A	4.0 (2.1)	Stroke and CVD events
Kario (2016)	Japan	Treated hypertensives	21,591	65 (12)	10,670 (49%)	21,591 (100%)	21,591 (100%)	2 morning measures & 2 evening measures per day over 2 days	Patients' own machine (Unknown)	N/A	2.0	CVD events
Niiranen (2015)	Finland & Japan	General population	4802**	61 (12)	2043 (43%)	2224 (46%)	1137 (24%)	First morning measure per day over 7 days	Omron HEM-722C (Y); Omron HEM 401C (N); Omron HEM 747IC (Y)	N/A	8.3 (median)	Composite cardiovascular endpoint #
Niiranen (2013)*	Finland & Japan	General population	5030; 2762; 4225**	Not stated	Not stated	No data	No data	First morning & first evening measure per day over 7 days	Not stated	N/A	Not stated	Composite cardiovascular endpoint #
Niiranen (2011)	Finland	General population	2081	56 (9)	964 (46%)	No data	472 (23%)	2 morning measures & 2 evening measures per day over 7 days	Omron HEM-722C (Y)~	N/A	6.8 (median)	CVD events
Ohkubo (2004)	Japan	General population	1491	61	552 (37%)	No data	456 (31%)	One morning measure per day over 4 weeks	Omron HEM 401C (N)	N/A	10.6 (2.9)	Stroke and TIA

Saito (2016)	Japan	Treated hypertensives	21,591	65 (12)	10,670 (49%)	21,591 (100%)	21,591 (100%)	2 morning measures & 2 evening measures per day over 2 days	Patients' own machine (Unknown)	N/A	2.0	CVD events
Stergiou (2010)	Greece	General population	662	54 (1)	278 (43%)	No data	103 (16%)	2 morning & 2 evening measures per day over 3 days	Omron HEM 705CP (Y)	N/A	8.2 (0.2)	CVD events
Reliability/reproducibility studies												
Almeida (2014)	Brazil	Patients referred for ABPM	158	51 (14)	74 (47%)	126 (80%)	80 (51%)	Up to 30 measures in total over 3 days	Microlife BPA100 Plus (Y)	Spacelabs 90207 (Y)	N/A	N/A
Almeida (2013)	Brazil	Patients referred for ABPM	158	51 (14)	74 (47%)	126 (80%)	80 (51%)	Up to 33 measures in total over 3 days or 24 measures over 5 days	Microlife BPA100 Plus (Y)	Spacelabs 90207 (Y)	N/A	N/A
Ambrosi (2014)	France	Heart transplant recipients	74	Not stated (median = 58)	53 (72%)	47 (64%)	63 (85%)****	2 morning & 2 evening measures per day over 7 days	Omron M3 or M6 (Y) †	Spacelabs (Y?) †	N/A	N/A
Barochiner (2011)	Argentina	Community hospital outpatients	353	Not stated (median = 67.8)	121 (34%)	No data	309 (88%)	Up to 6 measures per day over 4 days	Omron HEM-705CP (Y)	N/A	N/A	N/A
Boivin (2014)	France	Controlled hypertensives	52	67 (12)	35 (67%)	All controlled (according to clinic BP)	52 (100%)	3 morning & 3 evening measures for 3 days, without prior rest and five minutes after first series	Hartmann Duocontrol Tensoval Comfort (Y)	Spacelabs (Y?)	N/A	N/A
Celis (1997)	Belgium	Primary care patients	74	70 (6)	36 (49%)	54 (73%)	33 (45%)	1 sitting measure per day over 10 days	Mercury sphygmomanometer††	N/A	N/A	N/A
Di Monaco (2016)	Italy	Hypertensives	310	58 (16)	162 (52%)	310 (100%)	227 (73%)	2 morning & 2 evening measures per day over 4 days	Patients' own machine or ESH-validated machine (Y)	Spacelabs 90207 (Y)	N/A	N/A
Eguchi (2009)	USA	Hypertension clinic	56	60 (14)	26 (46%)	51 (91%)	42 (75%)	3 morning & 3 evening measures at intervals of either 10 secs or 1 min, for 4 days	Omron HEM – 5001 (Y^^)	Spacelabs 90207 (Y)	N/A	N/A

								per week over 8 weeks				
Ewald (2006)	Germany	Hypertensives	53	58	29 (55%)	53 (100%)	During study: 53 (100%) Baseline: Unclear	1 morning & 1 evening measure per day over 12 weeks	Tensio-Phone 2 (N)	N/A	N/A	N/A
Fujiwara (2017)	Japan	Hypertensives	48	76 (8)	20 (42%)	48 (100%)	48 (100%)	2 morning, 2 before dinner, 2 bedtime, & 3 during sleep measures over 14 days	Omron HEM-7252G-HP (Y)	N/A	N/A	N/A
Garcia-Vera (1999)	Spain	Primary care hypertensives	43	45 (9)	43 (100%)	43 (100%)	32 (74%)	Up to 3 measures per day over 8 days	Omron HEM-403C (N)	N/A	N/A	N/A
Hoffman-Petersen (2015)	Denmark	Renal outpatients clinic. Patients referred for ABPM	102	55	66 (65%)	No data	No data	Up to 9 measures per day over 3-4 days	UA-767PlusBT (Y)	A&D TM2430 (Y)	N/A	N/A
Imai (1993)^	Japan	General population	458	Not stated	Not stated	No data	No data	1 morning measure over up to 28 days	Not stated	N/A	N/A	N/A
Johansson (2010)	Finland	General population and newly diagnosed hypertensives (2 cohorts)	464	47 (7)	248 (53%)	236 (51%)	0 (0%)	2 morning & 2 evening measures over 7 days	Omron HEM 705C (Y##)	Suntech Accutracker II (N)	N/A	N/A
Juhanoja (2016)	Finland	General population	1852	56 (9)	(46%)	No data	(22%)	2 morning & 2 evening measures over 7 days	Omron HEM-722C (Y)	N/A	N/A	N/A
Kawabe (2005)	Japan	Volunteers from company	700	41 (11)	468 (67%)	142 (20%)	70 (10%)	3 morning & 3 evening measures over 7 days	HEM-759P Omron (Y^^^)	N/A	N/A	N/A
Kim (2015)*	South Korea	Suspected hypertensives	266	Not stated	Not stated	No data	No data	3 morning & 3 evening measures over 7 days	Not stated	Not stated	N/A	N/A
Lenti (2008)	Italy	Attendees at health education programme	370	60 (11)	198 (53%)	72%	85% of those with HT	3 morning & 2 evening measures on 2 days per week	Omron M6 (Y)	N/A	N/A	N/A
Maldanado (2009)	Portugal	Primary care hypertensives	685	54 (11)	339 (49%)	685 (100%)	685 (100%)	3 morning & 3 evening	Colson MAM BP 3AA1-2 (Y)	N/A	N/A	N/A

								measures over 5 days				
McGowan (2010)	UK	Suspected hypertensives referred from primary care	87	57 (12)	42 (48%)	No data	23 (27%)	2 morning & 2 evening measures over 7 days	Watch BP Home Microlife (Y)	Spacelabs 90207 (Y)	N/A	N/A
Muxfeldt (2015)	Brazil	Resistant hypertensive patients	240	67 (11)	62 (26%)	240 (100%)	240 (100%)	3 morning & 3 evening measures over 5 days	Omron HEM-705CP (Y)	Mobil-O-Graph (Y)	N/A	N/A
Nunan (2015)	UK	Patients with raised BP (>130 SBP)	203	56 (10)	107 (53%)	170 (84%)***	0 (0%)	2 morning & 2 evening measures over 7 days	IEM Stabil-O-Graph (Y)	Microlife WatchBP03 (Y)	N/A	N/A
Odili (2015)	Nigeria	General population	337	40 (11)	180 (53%)	85 (25%)	28 (8%)	2 morning & 2 evening measures over 7 days	Omron 705IT (Y)	N/A	N/A	N/A
Okada (2016)	Japan	Patients with Chronic Kidney Disease	175	69 (11)	122 (70%)	No data	161 (92%)	2 morning & 2 evening measures over 7 days	Not stated (Unclear)	N/A	N/A	N/A
Sharman (2016)	Australia	Hypertensives	286	64 (8)	134 (47%)	56% not controlled (according to ABPM)	286 (100%)	2 morning & 2 evening measures over 7 days (in analysis)	Patients' own machine (unclear) or A&D UA767 (Y)	A&D TM2430 (Y)	N/A	N/A
Stergiou (1998)	Greece	Outpatients BP clinic	189	52 (12)	107 (57%)	189 (100%)	79 (42%)	2 morning & 2 evening measures over 3 days per week for 2 weeks	Omron HEM-705CP (Y)	Spacelabs 90207 (Y)	N/A	N/A
Verberk (2006)	Netherlands	Hospital and general practice	216	55 (11)	118 (55%)	216 (100%)	0 (0%)	3 morning & 3 evening measures over 7 days	Omron HEM-705CP (Y)	Spacelabs 90217 (Y)	N/A	N/A

* Abstract only

^ The relevant component of the study is discussed only as a preliminary analysis in one paragraph of the paper

** Three distinct datasets

Composite cardiovascular endpoint, including cardiovascular mortality, nonfatal myocardial infarction, surgical and percutaneous coronary revascularization, heart failure, and stroke

*** Baseline clinic BP

**** Including controlled hypertensives

~ The study references a validation study which tested 2 distinct monitors, the Omron HEM-722C and the Omron HEM-735C, and a methodology paper (Heistaro S. *Methodology Report, Health 2000 Survey.* Helsinki, Finland: National Public Health Institute; 2008. http://www.terveys2000.fi/doc/methodologyrep.pdf. Accessed May 23, 2014) which lists the monitor used as Omron M4. However, another study (Johansson JK, Niiranen TJ, Puukka PJ, Jula AM. Prognostic Value of the Variability in Home-Measured Blood Pressure and Heart Rate: The Finn-Home Study. *Hypertension.* 2012;59:212-218) references the same detailed methodology report (using much the same population) and lists the monitor as the Omron HEM-722C.

† If patients had their own validated device they were allowed to use that. Precise Spacelabs device used not specified. In 5 patients other ABPM monitors were used.

†† Reported as “calibrated aneroid manometer with a membrane stethoscope integrated in the cuff” using Korotkoff sounds

^^ Monitor not validated, but uses same algorithm as Omron HEM-737 which has passed validation

Assuming this monitor is related to Omron HEM 705CP

^^^ Assuming this monitor is related to monitors HEM-759-E2 or HEM-759-E

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Prognostic Studies

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Table S2: Assessment of methodological quality

Study (First author; publication date)	Clarity of description of objectives and intervention	Clear selection criteria of participants	Was the participant selection method likely to avoid bias	Response rate (agreed to participate/ completed the study)	Information on attrition	Adequate checking of self-monitoring readings	Adequate and clear time period between measurements	Same reference standard used across sample (if ABPM used)	Blinding of those performing ABPM to self-monitored values	Adequate reporting of results
Almeida (2014)	Y	Y	Y	83%/ 93%	Y	Unclear	Y	Y	Y	Y
Almeida (2013)	Y	Y	Y	83%/ 93%	Y	Unclear	Y	Y	Y	Y
Ambrosi (2014)	Y	Y	Y	Unclear/ 96%	Y	Unclear	N	Y	Unclear	Y
Asayama (2009) #	Y	Y	N	76%/ 81%	Y	N	N/A	N/A	N/A	Y
Asayama (2006) #	Y	Y	N	Unclear/ 97%	Y	Unclear	N/A	N/A	N/A	Y
Barochiner (2011)	Y	Y	N	Unclear/ 95%	Y	Unclear	Y	N/A	N/A	Y
Boivin (2014)	Y	Y	Y	Unclear/ 100%	Y	Unclear	Y	Y	Y	Y
Celis (1997)	Y	Y	Y	100%/ 74%	Y	Unclear	Unclear	N/A	N/A	Y
Di Monaco (2016)	Y	Y	Y	Approx 30%/ 72%	Y	Unclear	Y	Y	Y	Y
Eguchi (2009)	Y	Y	Y	Unclear/ 98%	Y	Y	Y	Y	Unclear	Y
Ewald (2006)	Y	N	Unclear	Unclear/ 92%	Y	Y	Y	N/A	N/A	Y
Fujiwara (2017)	Y	Y	Unclear	Unclear/ 100%	N	Y	N/A	N/A	N/A	Y
Garcia-Vera (1999)	Y	Y	Y	Unclear/ 66%	Y	Unclear	Y	N/A	N/A	Y
Hoffman-Petersen (2015)	Y	Y	N	Unclear/ 90%	Y	Y	Y	Y	Unclear	Y
Hoshide (2016)	Y	Y	Unclear	Unclear/ 99%	Y	Y	N/A	N/A	N/A	Y
Imai (1993) ^	N	N	Unclear	Unclear/ Unclear	N	Unclear	Unclear	N/A	N/A	N
Johansson (2010)	Y	Y	Y	86%/ 91%	Y	Unclear	Unclear	Y	Unclear	Y
Juhanoja (2016)	Y	Y	Unclear	Unclear/ 88%	Y	Unclear	N/A	N/A	N/A	Y
Kario (2016)	Y	Y	N	Unclear/ 97%	Y	Unclear	N/A	N/A	N/A	Y
Kawabe (2005)	Y	Y	N	Unclear/ 68%	Y	Unclear	Unclear	N/A	N/A	Y
Kim (2015)^^	N	N	Unclear	Unclear/ Unclear	N	Unclear	Unclear	Unclear	Unclear	N
Lenti (2008)	N	Y	N	12%/ Unclear	N	Unclear	Unclear	N/A	N/A	Unclear
Maldanado (2009)	N	N	Unclear	Unclear/ Unclear	N	Y	Y	N/A	N/A	Unclear
McGowan (2010)	Y	Y	Y	Unclear/ 100%	Y	Y	Y	Y	Unclear	Y
Muxfeldt (2015)	Y	Y	Y	Unclear/ Unclear	N	Y	Y	Y	Y	Y
Niiranen (2015)	Y	Y	Unclear	Unclear/ 84%	N	Unclear	N/A	N/A	N/A	Y
Niiranen (2013)^^	N	N	Unclear	Not stated	N	Unclear	N/A	N/A	N/A	N
Niiranen (2011)	Y	Y	Unclear	Unclear/ 99%	N	Unclear	N/A	N/A	N/A	Y

Nunan (2015)	Y	Y	Unclear	Unclear/ 82%	Y	Y	Y	Y	Unclear	Y
Odili (2015)	Y	Y	Y	Unclear/ 93%	Y	Unclear	Y	N/A	N/A	Y
Okada (2016)	Y	Y	Unclear	Unclear/ 100%	N	Unclear	N/A	N/A	N/A	Y
Ohkubo (2004) #	Y	Y	N	98%/ 80%	Y	Unclear	N/A	N/A	N/A	Y
Saito (2016)	Y	Y	N	Unclear/ 97%	N	Unclear	N/A	N/A	N/A	Y
Sharman (2016)	Y	Y	Y	Unclear/ 100%	N	Unclear	Unclear	Y	Unclear	Y
Stergiou (2010)	Y	Y	Y	76%/ 95%	Y	Unclear	N/A	N/A	N/A	Y
Stergiou (1998)	Y	Y	Y	Unclear/ 97%	Y	Unclear	Y	Y	Unclear	Y
Verberk (2006)+	Y	Y	Y	Unclear/ Unclear	N	Y	Y	Y	Unclear	Y

Additional methodological information for these papers was extracted from:

Imai Y, Satoh H, Nagai K, Sakuma M, Sakuma H, Minami N, et al. Characteristics of a community-based distribution of home blood pressure in Ohasama in northern Japan. J Hypertens 1993; 11:1441–1449. (i.e. Imai 1993)

Tsuji I, Imai Y, Nagai K, Ohkubo T, Minami N, Watanabe N, et al. Proposal of reference values for home blood pressure measurement: prognostic criteria based on a prospective observation of the general population in Ohasama, Japan. Am J Hypertens 1997, 10:409–418.

Ohkubo T, Imai Y, Tsuji I, Nagai K, Kato J, Kikuchi N, et al. Home blood pressure measurement has a stronger predictive power for mortality than does screening blood pressure measurement: a population-based observation in Ohasama, Japan. J Hypertens 1998; 16:971–975.

^ The relevant component of the study is discussed only as a preliminary analysis in one paragraph of the paper

^^ Abstract only

+ Additional methodological information for this paper was extracted from:

Verberk WJ, Kroon AA, Kessels AG, Dirksen C, Nelemans PJ, Lenders JW, et al. Home versus Office blood pressure Measurements: Reduction of Unnecessary treatment Study: rationale and study design of the HOMERUS trial. Blood Press 2003; 12:326–333.

Y? The precise model of Spacelabs monitor used is not specified.

Table 1c: Adjusted HRs per 5mmHg increase in SBP in prognostic studies across number of measurements

Study (First author; publication date)	Years of follow-up	N (events)	Readings per day	Outcome	Adjusted HR per 5mmHg increase in systolic BP (95% CI)																		
					1	2	3	4	5	6	7	8	9	10	11	12	14	16	20	24	28	39	56	78
Asayama (2009)* **Ohasama**	11.9 (median)	2234 (226)	1 daily (1 in the evening)	Stroke and TIA	1.08 (1.04 to 1.12)	1.11 (1.06 to 1.16)					1.15 (1.10 to 1.21)						1.17 (1.11 to 1.22)				1.17 (1.12 to 1.24)			
Asayama (2006)* **Ohasama**	10.6 (median)	1766 (156)	2 daily (1 in the morning and evening) for 4 weeks	Stroke and TIA																	All AM 1.14 (1.09 to 1.21) All PM 1.16 (1.10 to 1.22)		1.17 (1.10 to 1.23)	
Hoshide (2016) **Ohasama**	4.0 (mean)	4278 (74) 4278 (77)	6 daily (3 AM and 3 PM) for 14 days	Stroke CVD events																		All AM 1.17 (1.09 to 1.25) All PM 1.12 (1.04 to 1.22) All AM 0.96 (0.89 to 1.05) All PM 1.05 (0.96 to 1.14)		1.18 (1.09 to 1.28) 1.00 (0.92 to 1.10)
Niiranen (2015) **Multiple studies**	8.3 (median)	4802 (568)	1 daily (1 in the morning)	CVD events	1.05 (1.03 to 1.08)	1.06 (1.04 to 1.09)	1.07 (1.04 to 1.09)	1.07 (1.04 to 1.10)	1.08 (1.05 to 1.10)	1.08 (1.06 to 1.11)	1.09 (1.06 to 1.11)													
Niiranen (2013) **Multiple studies**	Not stated Not stated Not stated	5030 (588) 2762 (360) 4225 (509)	1 daily (1 in the morning) 1 daily (1 in the morning) 2 daily (1 in the morning and evening)	CVD events CVD events CVD events							1.09 (1.06 to 1.11)						1.11 (1.07 to 1.15) 1.11 (1.08 to 1.14)							
Niiranen (2011) **FINN Home**	6.8 (median)	2081 (162)	4 daily (2 in the morning and evening) for 7 days	CVD events				1.07 (1.03 to 1.11)				1.08 (1.04 to 1.13)				1.09 (1.05 to 1.14)		1.09 (1.05 to 1.14)	1.10 (1.06 to 1.15)	1.10 (1.06 to 1.15)	1.11 (1.06 to 1.16)			

Ohkubo (2004)* **Ohasama**	10.6 (mean)	1491 (136)	1 daily (1 in the morning)	Stroke and TIA	1.09 (1.04 to 1.14)	1.10 (1.04 to 1.15)					1.13 (1.06 to 1.20)						1.14 (1.08 to 1.21)				1.16 (1.10 to 1.23)			
Stergiou (2010) **Didima**	8.2 (mean)	662 (67)	4 daily (2 in the morning and evening)	CVD events	*1.14 (1.09 to 1.19)*	*1.15 (1.09 to 1.20)*	*1.15 (1.10 to 1.20)*	*1.15 (1.10 to 1.21)*	*1.16 (1.10 to 1.21)*	*1.16 (1.11 to 1.22)* *All first of set 1.18* *All 2nd of set 1.19* *All AM 1.18* *All PM 1.17*	*1.16 (1.11 to 1.22)*	*1.17 (1.11 to 1.23)*	*1.17 (1.11 to 1.23)*	*1.17 (1.12 to 1.24)*	*1.18 (1.12 to 1.24)*	*1.18 (1.13 to 1.25)*								

* Note: all three studies from the same population, over slightly different time periods with slightly different focus - morning only, evening only, morning and evening.

** Note: these two studies both use three datasets (including Ohasama and FINN Home). The 2013 study is an abstract before the main paper in 2014, but includes some different analyses.

*** Note: Study reported unadjusted HRs without CIs (just p<0.05).Values in italics are unadjusted HRs. CIs taken from secondary paper: Stergiou GS, Baibas NM, Kalogeropoulos PG. Cardiovascular risk prediction based on home blood pressure measurement: the Didima study. J Hypertens 2007; 25: 1590–1596.Adjusted HRs also available from secondary paper but for all measurements only.